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ABSTRACT

This paper discusses a proposal for an international research initiative [DREAMS-Direct Research in Education And environmental Management in Schools] which aims to develop an indicative methodology for evaluating the contribution of environmental management systems to the 'implementation of sustainable development' in schools. The research investigates and assesses schools as key institutional drivers of socioeconomic development and environmental change in a variety of countries. By developing tools and methodologies for evaluating the effectiveness of incorporating environmental sustainability considerations into school policies and actions, the research sets out to enhance the basis for policy formulation in relation to schools' environmental management performance and contributions to sustainable development, and identify both barriers and enabling factors to the 'implementation of sustainable development' through school policies and actions. The paper explores the rationale and design for the research, the issues it raises for environmental education and environmental management, and possibilities for international collaboration in the initiative. (Contains 12 references.) (ASK)

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Researching Schools' Contributions to Sustainable Development: Perspectives on Environmental Education and Environmental Management

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RESEARCHING SCHOOLS' CONTRIBUTIONS TO SUSTAINABLE DEVELOPMENT: PERSPECTIVES ON ENVIRONMENTAL EDUCATION AND ENVIRONMENTAL MANAGEMENT

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Summary

The paper discusses a proposal for an international research initiative [DREAMS – Direct Research in Education And environmental Management in Schools] which aims to develop an indicative methodology for evaluating the contribution of environmental management systems to the 'implementation of sustainable development' in schools. The research investigates and assesses schools as key institutional drivers of socio-economic development and environmental change in a variety of countries. By developing tools and methodologies for evaluating the effectiveness of incorporating environmental sustainability considerations into school policies and actions, the research sets out to enhance the basis for policy formulation in relation to schools' environmental management performance and contributions to sustainable development, and identify both barriers and enabling factors to the 'implementation of sustainable development' through school policies and actions. The paper explores the rationale and design for the research, the issues it raises for environmental education and environmental management, and possibilities for international collaboration in the initiative.

Rationale

Schools remain key institutions in which the young are socialised and prepared for roles and responsibilities within adult life. For some decades now, the development of approaches to formal education which embrace an environmental dimension has been a growing feature of both curriculum reform and, more recently, of school environmental management[1]. The latter, which is of more recent origin, has arisen in large part from Agenda 21 processes[2], and draws heavily on the literature and practices of industrial and commercial environmental management, such that the state of play of a school's 'environmental management systems' and 'environmental management performance' is now the concern of both environmental managers and environmental educators. Furthermore, it is also maintained that curriculum reform without complementary school reform will be less effective than it might otherwise be; indeed that it may well not be effective at all. To illustrate, "Towards Sustainability", the European Community's *Fifth Environmental Action Programme*[3], reaffirms that legislation must be complemented with the use of market-based instruments to change environmentally damaging behaviour. For some environmental educators, a response has been to argue that in order for consumers and suppliers to demand and operate in environmental markets in the long term, there must be education about sustainable development in the short and medium term. As Sterling[4] notes: "*How people, institutions and communities interact – the hidden and operational curriculum – is all important and should engender a sustainability ethos that is both lived and critically reflected upon. Its characteristics include … greening the physical and management environments of institutions.*"

Of late, much of the debate in the environmental education literature has been about the need for change in the ways we think, plan and act in relation to such forms of education, i.e. away from past emphases and towards ways which embrace the debate about sustainable development. Thus contemporary discourse is expressed in relation to education and sustainable development, or education and what is termed 'sustainability'. 'Education for Sustainable Development' and 'Education for Sustainability' are now common ways of expressing this approach, and it is increasingly difficult to discuss environmental education without acknowledging the growing dominance of the sustainable development/sustainability debate[5]. Moreover, for schools, the broadening of the debate has led to the problematisation of the relationship between existing policy and practice for environmental education and that of environmental management[6].

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Issues

Earlier forms of environmental education were frequently able to find appropriate curriculum niches - within science and geography, for example - as what they were attempting, and the learning outcomes they embraced, were seen to fit within mainstream curriculum practice. In many cases, they had little to say about, and made few demands on, the environmental management performance of the school – save to encourage the development of school grounds as wildlife areas and as an outdoor laboratory. Yet as Orr[7] notes, things are no longer so comfortable: 'Sustainability is about the terms and conditions of human survival, and yet we still educate at all levels as if no such crisis existed. The content of our curriculum and the *processes* of education … have not changed' (our italics). The significance of 'processes' here is the confirmation that an education which takes sustainable development seriously cannot be content with merely influencing curriculum. This point is developed by UNESCO[1]: '*Ultimately, sustainable development will require an education that not only continues throughout life, but is also as broad as life itself, an education that serves all people, draws upon all domains of knowledge and seeks to integrate learning into all of life's major activities*'. Thus a question of increasing importance is, how is this to happen within an institution – the school – which in itself does not take its own sustainable development seriously? Fien[8] puts it succinctly: '*The fundamental goal … is the creation of sustainable environments in which people can live and work. A sustainable environment is one in which the natural environment, economic development and social life are seen as mutually dependent – and the interaction between them contributes to the sustainability and enhancement of the quality of people's lives and the natural environment*'. Such a perception neatly draws together the purposes and practices of schools as institutions, and raises questions as to their roles as drivers of socio-economic change, and their environmental management practices.

Further, it can be argued that, over the last two decades, definitions of such approaches to education - viz., environmental education, development education, education for sustainability, etc. - and the thinking that has given rise to them, have shown both increasing broadness and integration, and attention to the nature and conditions of education and learning has increased. What has been slow to develop, however, are attempts by schools to seek to become what 'Caring for the Earth'[9] termed a 'sustainable community', i.e. a community which '*cares for its own environment and does not damage those of others … uses resources frugally and sustainably, recycles materials, minimises wastes and disposes of them safely*', that is, a community with effective environmental management performance at its heart. This is not to say that there have been no such developments. One example of such an approach has been the Eco-Schools movement[10] which has set out to develop active participation of pupils in action and decision-making on environmental matters in the school community. What is lacking though in the case of Eco-Schools is an independent, critical examination of its methodology and performance, as both environmental education and environmental management.

What remains is that one of the crucial aspects of undertaking any form of development is an ability to know the extent to which success has been achieved, the degree to which progress is being made, and awareness of whether the most appropriate developmental path is being taken. This is particularly so in fields as complex as education where a myriad of factors can be at work, often shaping developments in particular, and potentially conflicting, directions. This argument applies fully to the environmental management performance of schools, where two key factors are: (i) the availability of valid data upon which to base decisions, and (ii) the availability of instruments and methodologies to gather and evaluate such data reliably, and re-present them in a form suitable for effective dissemination (factors associated with the Eco-Schools example). Over the past decade or so, a literature has developed on the use of 'performance indicators' in educational evaluation, and on evaluating sustainable development initiatives, but no such literature exists specifically in relation to environmental management performance in schools and its links to curriculum practice. It is this gap which the research addresses.

Additionally, a systematic approach through indicators can take account of a wide range of perspectives on progress made. As Agenda 21 put it:

> *"Indicators of sustainable development need to be developed to provide solid bases for decision making at all levels and to contribute to the self regulating sustainability of integrated environment and development systems."*

Although UNCED was discussing sustainable development in the widest sense, these arguments can apply to formal and non-formal educational settings and to environmental management performance within

them. Lawrence[11] notes: '*Sustainability indicators can be an important tool for helping individuals, institutions, communities, and societies make different and better choices about their futures*'; but also warns that the indicators: '*are not by themselves 'the answer'. If done well, they can lead to better answers, but only if they provide trustworthy information about the things in life that we value.*' In a nutshell, one of the many challenges in researching schools' contributions to sustainable development is that developed in the arguments of MacGillivray and Zack[12]. Their comments affirm the centrality of indicators to the dissemination of ideas about sustainable development, but also raise some of the broader issues in research and researching, in this case, the criteria used, implicitly or explicitly, in valuing and framing research processes and products. Their question, of whether indicators communicate useful information, is one that may be applied more generally, yet in and of itself, it will merit further reflection and comment as any research progresses, as to the warrant for assumptions about:

> *"...enabling situations to be understood and decisions made. Indicators must be both meaningful - accurately portraying what is happening - and resonant - allowing people to grasp the relevance to their own lives."*

Design

Such issues are of central importance to the framing of a research initiative which, firstly, sets out to develop quantitative and qualitative tools and methodologies to measure, compare and evaluate environmental management performance in schools; and secondly, uses these to evaluate contributions to sustainable development which result from the application of environmental management performance indicators; and thirdly, develops a protocol for the reporting and evaluating of such results, including a focus on barriers and enabling factors (Appendix). The final stage of the research sets out to draw up integrated policy guidelines to improve environmental management performance of schools and thus enhance their contribution to sustainable development. Critical reflections on the purposes, issues and nature of such a research design are invited during the roundtable – the conclusion to which will be an invitation to further critique of and international collaboration and partnership with, the initiative.

Questions for discussion

What issues does this paper raise for you?

What advice would you offer about undertaking such research?

Is this an example of 'today's complex and ill-structured education problems', and how might we 'rethink and improve the methods of scholarly inquiry'?

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APPENDIX

EXAMPLE OF THE OBJECTIVES OF SUCH A PROJECT IN MATCHING THE REQUIREMENTS OF AN EU RESEARCH BID DESIGN

Objectives

The project aims to develop an indicative methodology for evaluating the contribution of environmental management systems (EMS) to the implementation of sustainable development in schools across Europe.

The proposed research investigates and assesses schools as key institutional drivers of socio-economic development and environmental change. By developing tools and methodologies for evaluating the effectiveness of incorporating environmental sustainability considerations into school policies and actions, this research and development project will:

- enhance the basis for sectoral policy formulation in relation to schools' environmental management performance and contributions to sustainable development
- identify barriers as well as enabling factors to the implementation of sustainable development through school policies and actions.

The project has three objectives:

Objective 1: To enable the measurement and comparison of environmental management performance of schools across Europe, by:

- developing and validating quantitative indicators of the environmental management performance of schools
- using these indicators to investigate patterns and variations in environmental management performance between schools.

Objective 2: To enable the evaluation of contributions to sustainable development which result from the application of EMS in schools, by:

- establishing the extent to which full environmental and economic costs and benefits are incorporated into decision making within school management and curriculum practices, particularly within schools that claim to be models of best practice in terms of EMS policies and/or actions
- developing a common protocol for descriptive reporting and evaluation of the contributions that schools may make to sustainable development, including barriers to, and enabling factors for, implementing sustainable development policies.

Objective 3: To develop integrated policy guidelines, at European Union, regional and member state levels, which will improve the environmental management performance of schools across Europe and enhance their contribution to sustainable development.

Objective 1 relates to a narrow focus on quantitative indicators of environmental management performance at the process and school level. It sets out to:

- identify indicators from an examination of both voluntary and statutory environmental management performance evaluation in schools
- provide policy makers with validated mechanisms for obtaining and evaluating comprehensive and comparable information on the environmental management performance of schools
- provide a platform for cross-sectoral and international comparisons and evaluations of environmental management performance in future projects.

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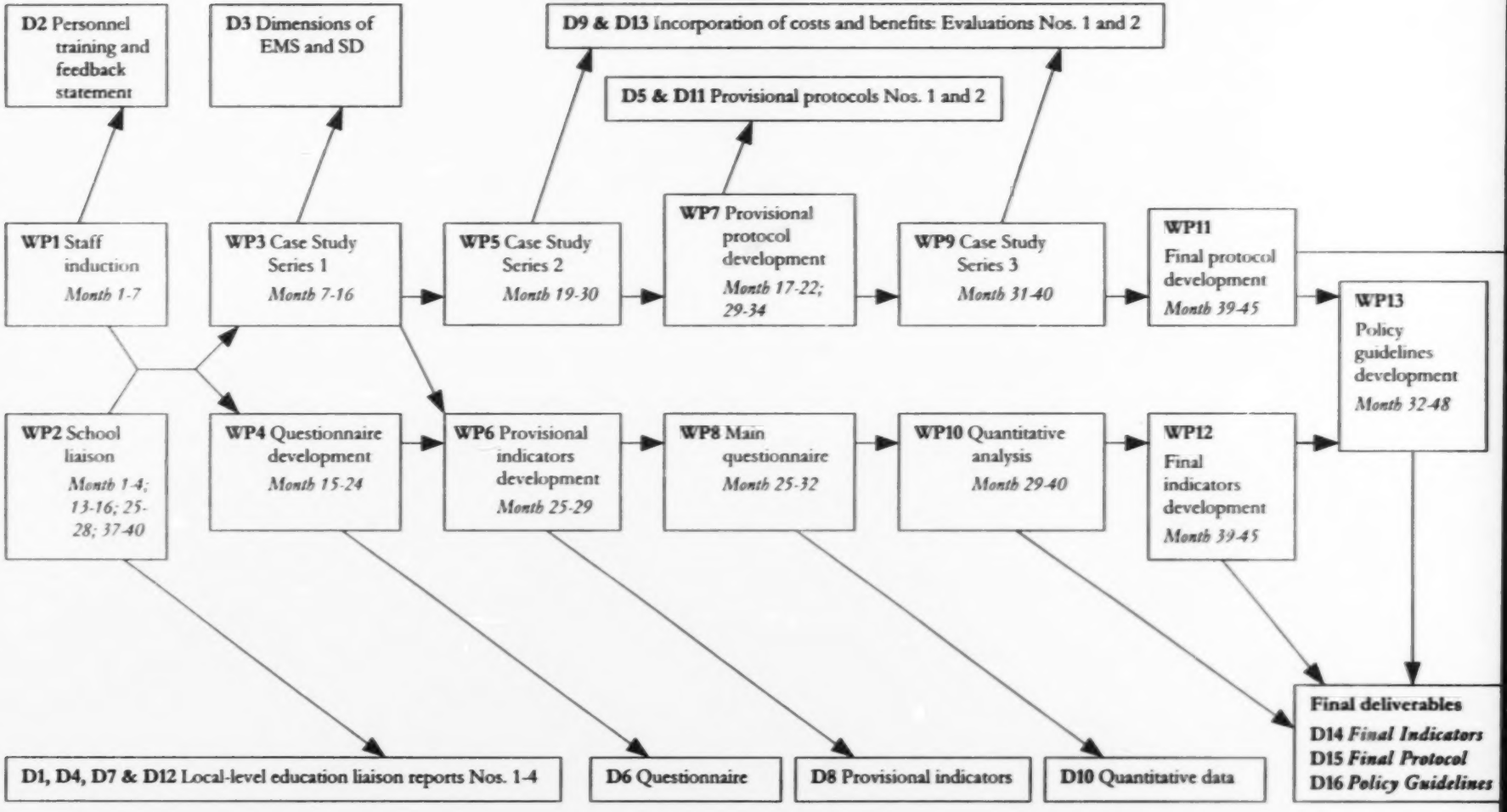
Work involves the:

- characterisation, collection and comparison of school-level data from a representative stratified sample in both primary and secondary phases of education across the 6 project partner countries
- identification of scientifically-based, reliable, practicable and relevant environmental management performance indicators from these data, such that they facilitate the measuring and mapping of patterns of environmental management performance
- analysis of patterns of, and socio-economic factors in, variability in environmental management performance through a targeted case study approach within a purposive sample of the school-level data at 12 case study sites across the 6 project partner countries.

Objective 2 relates to a broad focus on the promotion of sustainable development through school-level EMS and the opportunity costs associated with courses of action, both managerial and curricular. Work involves the:

- collection and analysis of school-level data from the case study sites
- assessment of potential costs and benefits of school-level EMS, according to a range of credible risk assumptions, and across a range of social, geographic and temporal scales
- identification of qualitative indicators of environmental management performance in schools, along with their relationship to and coherence with quantitative indicators
- elaboration of a common protocol for recording, comparing and evaluating school-level environmental management performance, with particular reference to school policies and actions that bear upon the implementation of sustainable development.

The achievement of **Objective 3** would be through synthesis of insights from this on-going work, and would be supported over the lifetime of the project by the continuing use and refinement of the indicators (**Objective 1**) and protocol (**Objective 2**) developed through the project partnership of schools, universities and the private sector.


D2 Personnel training and feedback statement
D3 Dimensions of EMS and SD
D9 & D13 Incorporation of costs and benefits: Evaluations Nos. 1 and 2
D5 & D11 Provisional protocols Nos. 1 and 2
WP1 Staff induction Month 1-7
WP3 Case Study Series 1 Month 7-16
WP5 Case Study Series 2 Month 19-30
WP7 Provisional protocol development Month 17-22; 29-34
WP9 Case Study Series 3 Month 31-40
WP11 Final protocol development Month 39-45
WP13 Policy guidelines development Month 32-48
WP2 School liaison Month 1-4; 13-16; 25-28; 37-40
WP4 Questionnaire development Month 15-24
WP6 Provisional indicators development Month 25-29
WP8 Main questionnaire Month 25-32
WP10 Quantitative analysis Month 29-40
WP12 Final indicators development Month 39-45
Final deliverables
D14 Final Indicators
D15 Final Protocol
D16 Policy Guidelines
D1, D4, D7 & D12 Local-level education liaison reports Nos. 1-4
D6 Questionnaire
D8 Provisional indicators
D10 Quantitative data

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